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DUES ARE DUE

If you have not sent in your \$12 dues for the year 1982 by the time the February newsletter is printed, i.e. by the January midmonth meeting, you will no longer be carried on the newsletter mailing list. If you want to continue to receive the newsletter send in your check. Back issues may not be available if you decide to renew later on in the year.

BAY AREA ATARI USERS GROUP NEWSLETTER

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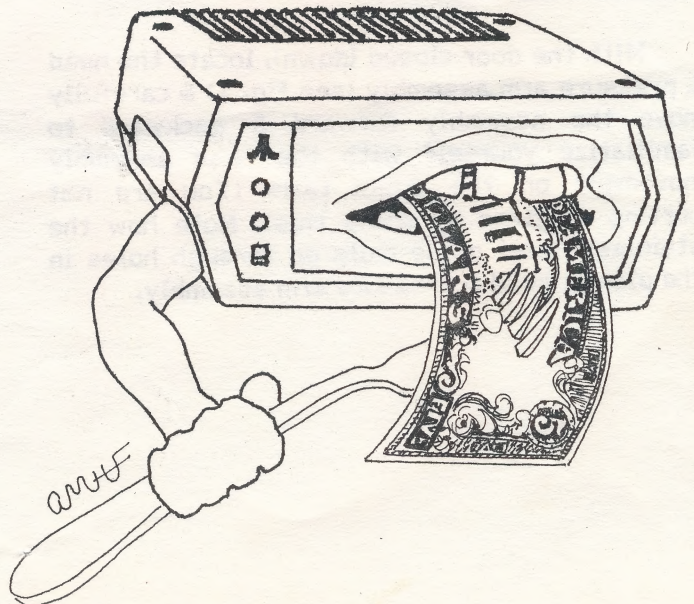
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Please submit articles camera ready, typed or printed in 3 1/2 inch columns. Mail to "EDITOR" at the correspondence address.

Subscriptions (which include Group membership) are \$12 per year and entitle you to 12 newsletters. Single newsletters are \$1.



HAVE YOU HUGGED
YOUR DISK DRIVE TODAY?
OR...

The Care & Feeding of the 810

by Joe Bolt

Is your 810 disk drive beginning to get a little tempermental?? - having difficulty or outright refusing to read some disks?? - getting noisy, giving you ERROR-138 or 144 more frequently?? then be nice to it & give it a minor tune up!! It's easy, it's fun, & it will reduce or eliminate many of the above problems.

GETTING STARTED

First, disconnect the drive & place it on a clean work bench or table, away from any magnets. (Motors, can-openers, radio speakers). Next, in a friendly, reassuring voice, tell it "This is not going to hurt a bit, & and will feel much better when it's all over". Placing it on newspaper or a cloth may make it feel more secure. If it doesn't run away, proceed as follows... 1. Using an Exacto knife, carefully remove the four small plastic disks from the shallow recesses on top of the drive. Stick the disks to the top, next to the holes they have been hiding. 2. With a non-magnetized phillips screwdriver, loosen the four screws in the holes, & carefully remove the top.

Next, in the same friendly manner, speaking directly to its innards, tell it how sorry you are for all the times you shouted at it, hit it on its top & sides, & bounced it on the table. Tell it you will try not to ever do it again (IF it behaves itself!!).

With the door closed (down), locate the head & pressure arm assembly (see fig. 1) & carefully move the assembly forward & backward to familiarize yourself with the head assembly movement on the guide rails (You are not hurting anything by doing this). Note how the stainless steel guide rails go through holes in the plastic head & pressure arm assembly.

Saturate a Q-tip with denatured alcohol & clean the guide rails, moving the head assembly forward or backward, out of the way. Denatured alcohol only should be used since other forms of alcohol leave a residue. (Sorry, vodka or tequila won't do it !!). (NOTE: from Dave Flory - You can get denatured alcohol at any stereo or tape source as "cassette head cleaner", usually at an exorbitant price.) With a Q-tip or bent paper clip, apply a very thin coating of Silicon Lubricant to the guide rails, moving the head assembly out of the way so that the entire rail can be lubricated. Try to get some on the bottom rails as well.

Head & Pressure Arm Assy.

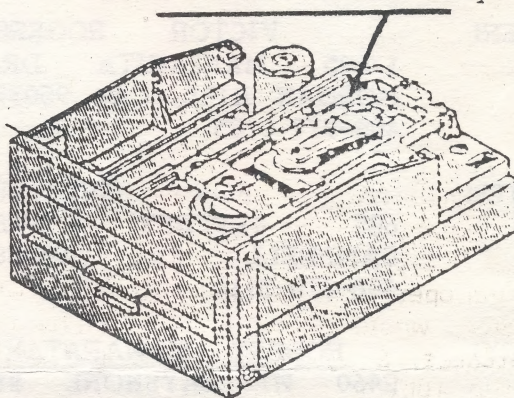


Fig. 1

Silicon lubricant must be used because it won't drip or run when the drive heats up during use. Silicon lubricant may be obtained in several different forms: as a gel, in tubes (at hardware or auto parts stores but **MUST BE SILICON LUBRICANT**), or in liquid form, usually in a spray can. (NOTE from Dave Flory - I suspect that any Spray Teflon lubricant could be used but I haven't tried it yet so if you want to experiment here you're on your own.) If you intend to use the **SPRAY** lubricant, **DO NOT SPRAY INSIDE YOUR DISK DRIVE !!** You will make it very unhappy and a happy disk drive is a working disk drive!!! If you are using a spray can, shake the can thoroughly, go outside away from your drive, saturate several Q-tips or spray some in a pill bottle, then go back & apply lubricant carefully to the guide rails. After applying the lubricant, gently move the head assembly forward & backward a number of times over the full length of the rails to evenly distribute the lubricant.

Next position the head assembly all the way back against the back stop. Open the disk door to raise the pressure arm. Saturate a Q-tip with alcohol & thoroughly clean the Read/Write head, being very careful not to raise the pressure arm past it's stop. (This could deform the spring, resulting in insufficient pad pressure). Insufficient pad pressure is one of the causes of Read/Write and formatting problems, & is usually caused by allowing the disk door to snap open instead of releasing the catch & raising the door gently.

Now let's take a look at the pressure pad assembly. You won't see much because the pressure pad is actually a small felt or composition pad which is cemented to a small plastic holder with a stem. All you see is the top of the stem where it protrudes through the pressure pad arm. The top of the stem is slotted with what looks like a screwdriver slot, but it does permit you to turn the pressure pad below.

For some reason, known only to Atari & M.P.I., the pressure pad orientation seems to be somewhat critical, particularly to the formatting operation. We have had drives which absolutely would not format under any circumstances, & by merely turning the pad, solved the problem.

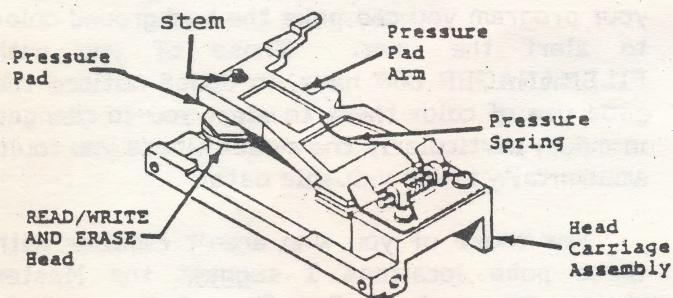


Fig. 2

To clean the pressure pad, use a Q-Tip dampened with alcohol & by reaching under the pressure pad arm, just above the Read/Write head. Lightly brush the pressure pad several

times to remove any disk residue or contamination from the surface of the pad. Using a jewelers screwdriver or sharpened orange stick inserted into the stem slot, turn the stem back & forth several times to ensure that it is free in the hole. Be careful not to use too much pressure. If it appears to be stuck, **LEAVE IT ALONE!!** Wait a few minutes to evaporate any alcohol the pad may have absorbed, then close the disk door. This lowers the pad to press against the Read/Write head. Place a finger just behind the slotted stem & lightly press down to straighten the pad assembly if it is crooked, & to assure that the pad is parallel with the face of the head.

This completes the major part of the minor tuneup. The final step is not for the faint-of-heart. Its really quite easy, (can't hurt anything if you're gentle) but it does get a little scary under certain circumstances. So have a cup of coffee or whatever, to settle your nerves & we'll go on with the final step.....

SPEED CONTROL AND ADJUSTMENT

Referring to figure 3, locate the speed control gadget (affectionately known as a potentiometer or pot.) The round plastic disk on the top of the gadget is actually the knob which turns to set & control the motor speed. **DO NOT MOVE THIS KNOB AT THIS TIME.** Now comes the fun part.... take your drive back to "Mother 800", connect it up & turn it on. (NOTE from Dave - if you have RPM or some other speed checker program you may skip right down to the speed adjustment instructions.) Load a copy of DOS-2.05 into the computer.

Speed Control Pot

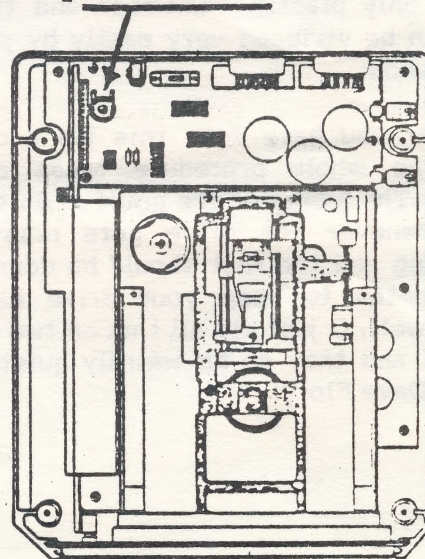


Fig. 3

Take a new, unformatted diskette, insert it into the drive & start the formatting sequence while watching the head assembly movement. Surprise!!! If you lubricated the rails properly, you should barely be able to hear the drive formatting. With the top back on, after a few hours of operation, you won't be able to hear the head movement at all, unless you put your ear against the drive while its formatting. This has fooled a number of fathers who thought drives had stopped formatting. Next, write DOS on the newly formatted disk & then write MEMSAV on the disk. Now turn off the computer & remove the BASIC cartridge.

Now comes the tricky part....with a stop watch, the Chrono function on your digital watch, or the second hand on a clock, time exactly how long it takes from the time you turn on the computer until DOS starts to appear on the screen. This time should be 42.5 seconds, if you motor speed was set correctly at 290 RPM (spindle speed) as recommended by the factory. (Unfortunately, I have yet to find one that was even near the correct speed, but I used some sophisticated electronic equipment to check the speed).

NOTE: If you have the fast format ROM in your drive the time should be 34 seconds.

If your drive speed needs adjusting just follow the directions in the December newsletter, ie. if it is too fast rotate the knob clockwise and if it is too slow turn it counter-clockwise. Make sure you turn the knob in very small increments. When the speed is correct reattach the top of the drive case being carefull not to turn the screws too tight. The case is only plastic, remember and the screw holes can be stripped very easily by your huge human hands.

After you have done this job a couple of times the whole procedure takes about 10 minutes. The lubing of the guide rails should be done whenever the drive gets noisy during formatting and the rest should be done every 3 or 4 months to keep your drive happy and running well. (I just did all this on two drives in 15 min.s and they do be weirdly quiet, quite a change, Dave Flory)

TEXT FROM THE CHAIR

by Dave Flory

We are suffering from a terrible lack of contributions for the newsletter. Almost all of this newsletter comes from other user group newsletters or me the President/editor. I have had several offers of help in getting it printed and sticking address labels and stamps but I am not inundated by member contributed copy. We have one of the most talented groups of programmers I have been fortunate to meet and I am sure that all of the members would be glad to see anything that you experienced people think would be useful to a starting programmer or casual user.

I know that I was really pleased to discover that poking colors is so easy. For example I find that looking at white letters on a medium blue background is very tiring, so whenever I can, I POKE 709,0 and POKE 710,216 and Poke 712,216. This yields a light green screen with black letters that I find much more pleasant. An alternative that I like about as much is to use 42 for the POKE into 710 and 712. This gives a light orange screen which is commonly used in Europe and is easy to look at. I use it often in alternation with the green background to alert myself to a change in mode or status of the program. For instance if you trap an error in your program you can poke the background color to alert the user. Those of you with FILEMANAGER 800 have no doubt noticed the good use of color there to alert you to changes in mode, particularly the modes where you could accidentally erase valuable data.

For those of you who aren't familiar with these poke locations I suggest the Master Memory Map by Santa Cruz Educ. Software. It is a lot cheaper than the OS manual and Hardware Manual and has most of the useful locations. of the ones mentioned here, 709 is the color register which holds the color of the text in Gr.0;710 is the background of the screen;712 is the color of the border around the screen text area in Gr. 0. You can get some wild effects by POKEing different numbers into the background and border registers using FOR NEXT loops and changing the colors rapidly.

ATARI 810 DISK JUNCTION

by
LARRY HITZ
August 1981

CONVERT YOUR 810 DISK DRIVE FOR FAST-FORMATTING

The first thing that needs to be done to a new blank disk before use is the **FORMATTING** of it. This process records information on the disk that identifies the sector numbers on the track. One would think that the sectors are put on the track in numerical order 1,2,3--but this is not the case in many systems, ATARI is such a system.

When a blank disk is formatted the sectors are interleaved--put on the track in a special order. The order could be 1-3-5-7-9 and so on or 2-7-3-5-10 or just about any pattern. The interleaving scheme is picked to provide the fastest read/write times as required by the applications program and DOS operating system. Some systems do put the sectors in order then via software operations the interleaving takes place.

Well as many of you know there is such a thing as a **FAST FORMAT** disk. This is a disk that will load 20% to 40% faster than a normal formatted disk. ATARI has been shipping **FAST FORMAT** disks with programs from APX. These disks are fully compatible with all drives and do indeed load much faster than the disks formatted with a standard 810 drive. (Note from Dave - I'm told the write operation is fractionally slower; I haven't timed it myself) The formatting instructions are in ROM inside the disk drive. Some day maybe ATARI will be shipping the 810 drives with the new ROM ('C' chip) and maybe all with older drives will have access to the new chip. In any event, many members of the ATARI Users Group of Chicago have been using fast formatted disks made on their own drives for many months. The answer is to replace the ROM inside the 810 drive with an EPROM. It is easy to reprogram an EPROM with the new interleaving formula. Many owners of early drives already may have an EPROM in their drive and if this is the case the modification is as easy as putting in a new EPROM (or reprogramming the old one - df) The EPROM to use is the single voltage 2716.

Here is a listing of the program changes made by us in Chicago. It is interesting to note that the patches here result in even somewhat faster operations than the formula used by ATARI. In a head-to-head test, loading the same program, ATARI was 13 seconds and ours was 11 seconds. It should also be said that neither our format nor ATARI's work well with DOS I and should only be used with DOS II.

FAST FORMAT PATCHES

```
$086F F0 F2 F4 F6 F8 FA FC FE
$0877 ED EF F1 F3 F5 F7 F9 FB
$087F FD
.
$09F7 EE
```

OLD PROGRAM IN ROM...

```
$086F F8 F1 FC F5 EE F9 F2 FD
$0877 F6 EF FA F3 FE F7 F0 F6
$087F F4
.
$09F7 ED
```

The most difficult part of converting the disk drive to **FAST-FORMAT** is finding someone who can read the ATARI ROM, make the program changes, and then burn a new 2716 EPROM. Remember, if your unit now has a 2716 EPROM, only get a new chip burned and you do not have to make any wiring changes. An EPROM burner for ATARI has been announced but as of this writing it is not on the market. Here in Chicago, a member of the ATARI Users Group built his own system, wrote a program in BASIC, and did the I/O via the game ports (PIA's) in front of the ATARI 800. Total cost was about \$75 for the complete EPROM burning system.

WRITING CONTEST

We have in possession of the club a 16K memory board and two copies of the OS and Hardware manuals. We have decided to give these to the people who submit the best articles or programs to the newsletter during the first half of the year. We will award a manual for the best article or program of each quarter and then the RAM board for the best of the first half year. The Executive board will pick 3 or 4 candidates and we'll hold a vote on the first meeting after the end of the appropriate quarter.

INSTALLATION

CHANGE CHIP A102 FROM MASK ROM TO 2716 EPROM AND CHANGES TO WIRING OF THE MOTHER BOARD.

1. Remove disk drive from plastic case. Remove MOTHER BOARD (be sure that the two connector plugs at end of the board are properly marked for later replacement). Remove the metal shield covering the chips on the MOTHER BOARD.

2. Locate the following chips on the board: A105 1771 DISK CONTROL CHIP, 40 PINS; A102 MASK ROM, 24 PINS TO RIGHT OF THE 1771 CHIP; Z103 D4096 INVERTER CHIP, 14 PIN BELOW AND TO RIGHT OF A102.

3. Wiring changes for converting from ROM to EPROM at A102. On the FOIL SIDE of the socket of A102, CUT THE FOIL TRACE CONNECTED TO PINS 18,20,21 as close to the pin as possible.

Make the following connections with jumper wire:

CONNECT PIN 18 TO GROUND

CONNECT PIN 21 TO +5 VOLT DC

CONNECT PIN 20 TO PIN 2 OF Z103 THE D4069 INVERTER CHIP

4. Put in the new EPROM -- RE-ASSEMBLE UNIT AND TEST and ENJOY!!

Any questions can be sent to me at:

ATARI Users Group of Chicago
%Larry Hitz
15 Mohawk Drive
Clarendon Hills, Illinois
60514

Atarily, Larry Hitz

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MEETING NOTICE

The next regularly scheduled meeting of the Bay Area Atari Users Group will be January 4th at 7:00 P.M. The meeting will be at our new location: Dysan, Inc.; 5201 Patrick Henry Way, Santa Clara. Our scheduled speaker will be Harry B. Stewart, ATARI consultant, who will be demonstrating the newly released PILOT language. Harry is quite knowledgeable about PILOT since he had primary responsibility for writing the specifications and implementing them.

Our midmonth meeting this month will be 7:00 P.M., Tuesday, January 19th at Central Campbell Computers in downtown Campbell at 354 E. Campbell Avenue.

Our February main meeting will be back at Dysan on Monday, Feb. 1 @ 7:00 P.M.

The February mid-month meeting will be at Computer Capers in the Oak Mill Shopping Center in Mtn. View. This is on San Antonio Rd. next to Alma Street. San Antonio Rd. is the best access from 280 and 101 Freeways, and Central Expressway is a quick, direct route for Santa Clarans.

NEW SHOP OPEN

A new store opened recently. It is the Computer Capers run by Tom and Helen Gracon. (see above for location) The shop is unique at this time, as they don't sell anything but time on computers, of which they have quite a few. There are 15 Ataris, 9 of the 400 and 6 of the 800 I drove up there and found them very helpful and friendly. The place is very well supervised. There are also Apples, TI's and TRS-80's for unbelievers.

Normal rates are \$2.25/half hour and \$4.00/hour. This includes normal software, such as games (they have most of the good ones) at no extra cost. Visicalc and the Word Processor have a reasonable surcharge. I didn't check the Visicalc cost but 3 hrs. on the the Word Processor is \$25.00 and includes the use of the printer and paper. If your system bombs or you would like to compare systems, give them a visit, and check out our February midmonth meeting place.

A QUESTION OF PRIORITIES

I was recently talking with the president of the college at which I teach. Since I am recognized as one of the resident experts in microcomputers on the campus, he commented to me that he had been talking with one of the engineering instructors who had recently had occasion to use the Industry Education Council Atari Van. He had asked this other instructor what he thought of the Atari computer, and how it compared with the other micros on the market. The response was "it is a fine machine, but it isn't going to make it because they're just into games."

I have heard similar comments (usually from Apple owners) that the Atari wasn't a "serious" machine, it was only for playing games. I wish I could dismiss both of these comments as due to ignorance or prejudice. Unfortunately, the evidence suggests otherwise. The well publicized Atari warnings about piracy seem to be directed primarily at arcade style games. Even in the face of the tremendous success of something like VISICALC, note the thrust of the current crop of TV commercials. But, perhaps as telling as anything about the collective corporate mentality regarding priorities, is the selection and order of new Atari Program Exchange (APX) programs demonstrated at the last Bay Area Atari Users Group meeting. The selections were dominated by arcade and "educational" games. The first shown, Caverns of Mars, was a technically flawless scrolling arcade style game similar to one I recently saw called Protector (However, it is not quite as good). It has an excellent collection of "whistles and bells": technically sophisticated but definitely sophomoric. It is not deserving of the \$25,000 grand prize it will probably receive! There is no comparison between it and Chris Crawford's elegant Eastern Front.

Some of the other programs ranged in quality from novel, to dumb, to (as one of our former librarians commented at the time) "that's in the catalog?" Obviously I'm not alone in my opinions. The only program demonstrated that received applause was a music program, Keyboard Organ, written in Forth.

I guess I can understand Atari's position. They have made a lot of money with games, starting with Pong. Why mess with a proven winner? I however, think they have their priorities wrong. And I am dissappointed and saddened that so few people in marketing, who are otherwise quite bright, seem to lack the imagination and creativity to go beyond the obvious and easy; to explore new horizons that would allow this most versatile of all human inventions to be an intellectual ladder rather than a substitute for sitcoms and soaps.

I happen to know that Atari has lost at least one bid for installation of Atari Personal Computers in school districts because of insufficient quality educational software. The educational market (NOT games) is the key to ultimate public acceptance of an otherwise intimidating piece of machinery. Besides the long years of education necessary to become a subject matter specialist, it generally requires much longer than the month and a half spent on Caverns of Mars to write a quality piece of software. When the trivial electronic equivalents of "hula hoops" are handsomely rewarded, and educational software is not, guess what will happen. Or maybe I should say guess what won't happen! I would suggest that the market place already offers sufficient incentive to encourage the development of games, without further encouragement. However, If Atari wants quality educational software, they are going to have to subsidize it to the extent of making APX prize money for education at least equal to games, if not more, and reward effort and creativity more than novelty.

Finally, I would suggest that good educational software, as good education, should challenge everyone, not just 9 year olds. If the claim is made that the children in one's family, from preschool through college, can be educated with a computer, the software ought to be available. Where is the college level software? Since the potential market is smaller than for elementary school age, where is the incentive to produce it when conceptually easy to write math and spelling drills (easier for reviewers to evaluate too) will have larger royalty returns and apparently a better chance for recognition as a potential "consumer item" with larger APX prize awards.

Clyde Spencer
Foothill College

ADVERTISING MANAGER

We are in need of someone who likes to visit the shops and talk to people to take care of trying to get ads from Stores, Hardware and Software suppliers, etc. If we can get some reasonable income here, like about two pages of ads each month the newsletter will almost pay for itself and we can make it larger and include more program listings, etc. To give the members some idea of the expense involved the last (December) newsletter cost \$75.24 for printing and \$60 for postage.

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USERS GROUP
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This is membership
renewal time for all
who wish to remain on
the mailing list.
Please fill this
form in completely
and mail at your
earliest
opportunity to:

** MEMBERSHIP APPLICATION/RENEWAL **

Membership in the Bay Area Atari Users Group entitles you to the
monthly newsletter. This includes information on meetings, hints
on programming, subroutines, notices of releases for new Atari
products, dealer's specials, free classified ads for individuals,
and much more! Also, very important, loads of FREE software.
YES, I would like to become a member/renew my membership
In the: BAY AREA ATARI USERS GROUP
Make check payable to the:
"Bay Area Atari Users Group"
Memberships are from January 1 to December 31. Dues are
\$12.00 per year. Please send in early to keep your news-
letters coming without interruption.

Name: _____
Address: _____
City, State: _____
Zip Code: _____
Phone: () _____
(Please check whether new or renewing, it will save us time)
NEW RENEWING ADDRESS CHANGED-yes no
Would you want your name, address, and phone included in the
membership roster which will be distributed only to the club
members? () Yes () No



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